

NATIONAL PHOTOGRAPHIC INTERPRETATION CENTER



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imagery analysis report

# SAL-Related Activities Summary Report

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S-003/25X1  
DECEMBER 1979  
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**Top Secret RUFF****INTRODUCTION**

1. [ ] This report is the third in a series of reports on SAL-related activities to be done by the National Photographic Interpretation Center. This report covers the period from 1 September through 30 November 1979 and updates the preceding SAL Summary report published in September 1979:

NPIC. [ ] S-002/79, *SAL-Related Activities: Summary Report (S)*, Sep 79 (TOP SECRET RUFF) [ ]

It contains four sections which deal with strategic land-based missiles (section 1), submarine-launched ballistic missiles (section 2), cruise missiles (section 3), and long-range aviation (section 4).

2. [ ] Pertinent concealment, camouflage, and deception activity is included in the discussion of the various substantive areas.

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**Top Secret RUFF****LIST OF ACRONYMS AND ABBREVIATIONS***This list in its entirety is UNCLASSIFIED*

ABM	Antiballistic missile
ALCM	Air-launched cruise missile
ARD(D)	Floating drydock
ASAT	Antisatellite
ASM	Air-to-surface missile
CAN/CAP	Canister/capsule
CSF	Complex support facilities
GSE	Ground support equipment
HE	High explosives
ICBM	Intercontinental ballistic missile
LAD	Launch assist device
LCF	Launch control facility
LRA	Long-range aviation
MSPT	Multisystem propellant transporter
MSTC	Missile/space test center
MTC	Missile test center
NMTC	Naval missile test center
NPIC	National Photographic Interpretation Center
NWPG	Nuclear weapons proving ground
PAT	Payload-associated transporter
PBV	Postboost vehicle
POE	Piece(s) of equipment
R&D	Research and development
RP	Reporting position
RTP	Rail-to-road transfer point
SAL	Strategic arms limitation
SALT	Strategic Arms Limitation Treaty
SLBM	Submarine-launched ballistic missile
SNA	Soviet naval aviation
SSB	Fleet ballistic missile submarine
SSBN	Nuclear-powered fleet ballistic missile submarine
SSGN	Nuclear-powered guided missile submarine
SSN	Nuclear-powered submarine
VLF	Very low frequency
YRSN	Nuclear ship support barge

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**SECTION 1**

**Strategic Land-Based  
Missiles  
(1 September — 30 November 1979)**

**Top Secret RUFF****OFFENSIVE MISSILE ACTIVITY****Modernized SS-11**

4. [ ] Complete coverage was obtained at five of the six complexes. At Teykovo SSM Complex, all components were imaged except launch sites 23B and 30B. 25X1
5. [ ] Periodic maintenance was observed at five of the complexes and involved a total of five launch groups. 25X1
6. [ ] During the early part of the reporting period the sightings of netting/canvas remained about the same as reported in the previous summary report. Toward the end of the reporting period the netting/canvas was probably removed before the snows began. 25X1

**Drovyanaya**

7. [ ] All components of the complex were imaged. Periodic maintenance was observed in Launch Group H during October and November. 25X1

**Gladkaya**

8. [ ] All components of the complex were imaged. Periodic maintenance was observed in Launch Group H during August and September. Unidentified activity was observed at site 45I on [ ] The silo door was open and the top of the SS-11 missile canister was visible in the silo aperture. Nine trucks and one vehicle/POE were on the silo apron. 25X1

**Olovyannaya**

9. [ ] All components of the complex were imaged. [ ] unidentified material at launch group control site 17E has been stored on the access road inside the security fence. [ ] an unusually high number of missile-associated railcars were observed at the RTP and the CSF-Rail. As many as 26 missile railcars and 37 propellant railcars were observed. 25X1

**Perm**

10. [ ] All components of the complex were imaged. [ ] This is an annual occurrence within this launch complex. Periodic maintenance continued in Launch Group H during August. 25X1

**Svobodnyy**

11. [ ] All components of the complex were imaged. Periodic maintenance was observed in Launch Group H. [ ] 25X1

**Teykovo**

12. [ ] All components of the complex were imaged except 23B and 30B. Periodic maintenance continued in Launch Group H. [ ] 25X1

**SS-13****Yoshkar Ola**

13. [ ] All components of the complex were imaged. Modernization of Launch Group D was completed during this period. Premodernization activity consisting of intersite cable trenching continued in Launch Group E. 25X1

**SS-11 and SS-17**

14. [ ] All components of the Kostroma and Yedrovo SSM Complexes were imaged except launch site 120R at Yedrovo and launch site 32J at Kostroma. 25X1
15. [ ] The number of completed SS-17 type IIIH silos was 120, the number of type IIIH silos under conversion was 30, and the number of SS-11 type IIID silos was 50. 25X1
16. [ ] Twelve LCFs were operational, three were under construction, and five remained inactive/backfilled. 25X1
17. [ ] At that time the conversion of the two groups at Yedrovo and the one at Kostroma was nearly complete. The conversion should be externally complete; however, imagery has not been available to confirm this. 25X1

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	<b>Total Groups</b>	<b>SS-11 Groups</b>	<b>SS-17 Groups</b>	<b>Groups Under Conversion</b>
Yedrovo	11	0	9	2
Kostroma	9	5	3	1

	<b>SS-11</b>	<b>SS-17</b>	<b>Under Conversion</b>	<b>LCF</b>
<b>Yedrovo</b>				
I		X		Complete
J		X		Complete
K		X		Complete
L		X		Complete
M		X		Complete
N			X	Ucon
O		X		Complete
P		X		Complete
Q		X		Complete
R		X		Complete
T			X	Ucon
<b>Kostroma</b>				
I		X		Complete
J	X			Abandoned
K		X		Complete
L		X		Complete
M	X			Backfilled
N	X			Abandoned
O	X			Backfilled
P			X	Ucon
Q	X			Backfilled

**Kostroma**

18. ☐ All components of the complex except launch site 32J were imaged. Conversion was nearly complete in Launch Group P, and construction was continuing on LCF PP. No activity was observed at the inactive/backfilled launch control silos. ☐ possible silo refurbishment was observed at launch site 110Q. The silo door was open, and the exhaust deflector ring was out on the side of the apron. A truck-mounted crane and a truck were on the silo apron. Dirt/canvas was around the empty silo aperture, extending onto and on both sides of the open silo door and down the sides of the apron embankment next to the personnel access hatch.

25X1

25X1

**Yedrovo**

19. ☐ All components of the complex except launch site 120R were imaged. Conversion was nearly complete in Launch Groups N and T. Construction continued on LCFs NN and TT. The launch control capsules had been placed in the silos. Periodic maintenance was underway in Launch Group M during August.

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**SS-11 and SS-19**

20. ☐ Complete coverage was obtained at three of the four complexes, and partial coverage was obtained at the remaining complex. All the RTPs and 373 of the 410 launch sites were imaged.

25X1

21. ☐ The number of completed IIIG silos was 320, the number under construction was 40, and the number undergoing modification was 40. The number of IIID silos remained at 50.

25X1

22. ☐ Twenty-eight LCFs were operational, four remained under construction, and four were undergoing modification.

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	<b>Total Groups</b>	<b>SS-11 Groups</b>	<b>SS-19 Groups</b>	<b>Groups Under Conversion</b>	<b>Groups Under Modification</b>
Kozelsk	11	5	6	—	—
Tatischevo	12		8	4	—
Derazhnya	9	3	6	—	2
Pervomaysk	9	3	6	—	2



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	SS-11	SS-19	Under Conversion	Under Modification	LCF
<b>Kozelsk</b>					
G		X			Complete
H		X			Complete
I		X			Complete
J		X			Complete
K	X				Backfilled
L		X			Complete
M	X				Backfilled
N		X			Complete
O	X				Backfilled
P	X				Backfilled
Q	X				Backfilled
<b>Tatishchevo</b>					
A		X			Complete
B		X			Complete
C		X			Complete
D		X			Complete
E			X		Ucon
F		X			Complete
G		X			Complete
H			X		Ucon
I		X			Complete
J			X		Ucon
K			X		Ucon
L		X			Complete
<b>Derazhnya</b>					
A		X		X	Undergoing modification
B		X			Complete
C		X		X	Undergoing modification
D		X			Complete
E		X			Complete
F		X			Complete
G	X				Complete
H	X				Complete
I	X				Complete
<b>Pervomaysk</b>					
A		X			Complete
B		X		X	Undergoing modification
C		X			Complete
D		X		X	Undergoing modification
E		X			Complete
F		X			Complete
G	X				Complete
H	X				Complete
I	X				Complete

**Kozelsk**

23. [ ] All components of the complex were imaged. No activity was observed at backfilled LCFs KK, MM, OO, PP, or QQ. Probable periodic maintenance was underway at launch sites 97O and 106O in November. Most of the vehicles and POE at the sites and in the temporary support areas were canvas covered. [ ] unidentified activity was observed at launch site 64L. Nine vehicles were on the silo apron, and four house trailers were in a temporary support area outside the site security fence. 25X1

**Tatishchevo**

24. [ ] All components of the complex were imaged. [ ] 25X1  
[ ], four LCFs (EE, HH, JJ, and KK) were in various stages of construction, while the 25X1  
four launch groups were being converted [ ] the modified IIIG headworks had been installed 25X1

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at five of the ten sites in Launch Group I, and the sites were nearly complete; at four other launch sites, silo wall sections and modified IIIG headworks were on the aprons. [ ] launch site 84I was externally complete. The silo door was open, and the exhaust deflector ring was just off the apron. 25X1

25. [ ] the modified IIIG headworks had been installed at eight launch sites in Launch Group E, and the sites were nearly complete. At launch site 120E the modified IIIG headworks was on the apron, and at launch site 122E two wall sections and the modified IIIG headworks were on the apron. Conversion of Launch Groups H, J, and K was in the early stages. 25X1

**Derazhnya**

26. [ ] Approximately 62 percent of the components of the complex were imaged during the reporting period. [ ] all of the silos in Launch Group D were externally complete. A propellant loading operation was underway at launch site 5D, and two MSPTs were backed up to the open silo. Eighteen other vehicles were also onsite. [ ] when Launch Group C was last observed, modification was in the early stage. In Launch Group A, only LCF AA and launch sites 6A and 8A were imaged during the reporting period. [ ] Modification was also in an early stage at these sites. 25X1  
25X1  
25X1  
25X1

**Pervomaysk**

27. [ ] All components of the complex were imaged. Modification of LCF AA and five launch sites in Launch Group A was complete. When the other five launch sites were last observed [ ] modification was nearly complete. Modification of Launch Groups B and D was in the early stages. Probable periodic maintenance was underway in Launch Group C in August. Most of the vehicles and POE at LCF CC, both onsite and in the temporary support area, were canvas/net covered. [ ] two type IV warhead vans were at launch site 24C. [ ] several of the IIIG components in the silo materials receiving area, as well as the SS-19 GSE in the RTP, were canvas covered. 25X1  
25X1  
25X1  
25X1

**SS-18 Complexes**

28. [ ] Complete coverage was obtained at all six complexes during the reporting period. All 308 launch silos and all the RTPs and support facilities were imaged. The number of completed IIIF silos has increased to 242 five-ten-silo groups, and 32 six-silo groups. The remaining 66 silos were all under construction [ ] The number of completed type III LCFs is 37. Construction continued at all six training sites. 25X1  
25X1  
25X1

**SS-18 Conversion Status**

	Total Groups/Sites	Under Conversion Groups/Sites	Mod-4 at RTP
Aleysk	5/30	1/6	Yes
Dombarovskiy	10/64	1/6	Yes
Imeni Gastello	8/52	2/12	Yes
Kartaly	7/46	2/12	Yes
Uzhur	10/64	2/12	Yes
Zhangiz-Tobe	8/52	3/18	Yes
Total	48/308	11/66	

**Conversion Status by Complex**

	SS-18	Under Conversion	LCF	Mod-4
<b>Aleysk</b>				
A	X		Complete	
B	X		Complete	
C	X		Complete	
D	X		Complete	
E		X	Ucon	

**Top Secret RUFF****Dombarovskiy**

A	X	Complete	
B	X	Complete	
C	X	Complete	
D	X	Complete	
E	X	Complete	
F	X	Complete	
G	X	Complete	
H	X	Complete	51H
I	X	Complete	
J		Ucon	X

**Imeni-Gastello**

A	X	Complete	
B	X	Complete	
C	X	Complete	
D	X	Complete	
E	X	Complete	
F	X	Complete	
G		Ucon	X
H		Ucon	X

**Kartaly**

A	X	Complete	
B	X	Complete	
C	X	Complete	
D	X	Complete	
E	X	Complete	
F		Ucon	X
G		Ucon	X

**Uzhur**

A	X	Complete	
B	X	Complete	
C	X	Complete	
D	X	Complete	
E	X	Complete	
F	X	Complete	
G	X	Complete	38G, 39G, 40G, & 43G
H	X	Complete	
I	X	Ucon	X
J		Ucon	X

**Zhangiz-Tobe**

A	X	Complete	
B	X	Complete	
C	X	Complete	
D	X	Complete	
E	X	Complete	27E
F*		Ucon	X
G		Ucon	X
H		Ucon	X

\*Launch Group F was probably completed during November 1979.

**Aleysk**

30. [ ] All components of the complex were observed during the reporting period. Conversion activity had been completed in Launch Group D during September 1979. Launch Group E remained in the early-to-mid stages of construction. Evidence of an SS-18 silo loading was observed at launch site 24D [ ]. An empty CAN/CAP silo loader, a MAZ crane, and a cargo truck were near the silo door. The Mod-4-associated shipping container was observed at the RTP [ ]. This followed the September sighting of the PAT at the RTP.

25X1

25X1

25X1

**Dombarovskiy**

31. [ ] All components of the complex were observed. Conversion was completed in Launch Group I during November as conversion of Launch Group J continued. Evidence of an SS-18 silo loading was seen at launch site 50H [ ]. A CAN/CAP silo loader and an SS-18 missile on a CAN/CAP transporter were on the silo apron. At launch site 51H a probable PBV-associated operation was underway. A PAT was backed up near the closed silo door, and a MAZ-543 transporter with an SS-18 upper canister section was nearby.

25X1

25X1

**Top Secret RUFF****Imeni-Gastello**

32. [ ] The entire complex was imaged during the reporting period. Conversion had been completed at launch site 33F [ ] The remaining five launch sites and LCF FF were undergoing final grading and landscaping when last observed in mid-October. Conversion was continuing in Launch Groups G and H. 25X1  
25X1

33. [ ] Six Mod-4-associated shipping containers were at the RTP from early September through the latter part of October. 25X1  
.

**Kartaly**

34. [ ] All components of the complex were imaged. Conversion of Launch Group E was completed during September, and conversion continued in Launch Groups F and G. An indication of a silo loading exercise was seen at launch site 36E [ ] A CAN/CAP silo loader and several support vehicles were near the closed silo door. [ ] at Launch Site 21C, an SS-18 upper canister section on a MAZ-543 transporter, a MAZ crane, a type V warhead transporter, and seven vehicles were near the closed silo door. This activity was probably related to periodic maintenance. 25X1  
.  
25X1  
25X1

35. [ ] Six Mod-4-associated shipping containers and three SS-18 missiles and associated upper canister sections were seen in the RTP from September through mid-October. (The Mod-4-associated PAT still has not been identified at the complex.) 25X1

**Uzhur**

36. [ ] All components of the complex were imaged. Conversion was completed in Launch Group H during October and continued in Launch Groups I and J. A propellant exercise was being conducted at launch site 47H [ ] Two MSPTs were backed up to the open silo, and 12 other support vehicles were also present. [ ] at launch site 43G, a probable PBV-associated operation was seen. A PAT was backed up near the closed silo door; a MAZ crane and an SS-18 upper canister section on a MAZ-543 transporter were nearby. 25X1  
25X1  
25X1

**Zhangiz-Tobe**

37. [ ] All components of the complex were imaged. Final grading and landscaping was underway at Launch Group F when it was seen in the latter part of October; the group should have been completed by the end of this reporting period. Conversion continued in Launch Groups G and H. 25X1  
.

**MISSILE TEST RANGES AND FACILITIES****Tyuratam**

38. [ ] Strategic missile activity observed at the Tyuratam MSTC during this reporting period included the continuing conversion of SS-11 launch site L4 to an SS-17 launch site; the continuing lack of activity at destroyed launch sites L6 (SS-11) and V2 (SS-17); the lack of any ASAT-related activity at Space Launch Site G1 A/B; the continuing construction activity in the support area of Space Launch Site G1 A/B; the probable missile unloading activity at SS-9 launch site K2; the possible overburden test on the silo door at SS-18 launch site R13; and prelaunch and postlaunch activity associated with two SS-17 launches, five SS-18 launches, and two SS-19 launches. 25X1

39. [ ] The conversion of SS-11 launch site L4 to an SS-17 launch site has progressed to the late stage of construction. It should be completed by January 1980. [ ] the last of the three silo sleeves had been installed in the silo. [ ] the silo door pocket and silo door had been installed on the silo. [ ] the gantry crane was being dismantled, [ ] work was progressing on the final grading for the silo apron. Launch site L4 apparently will be a standard type IIIH modified (without a headworks) launch silo. 25X1  
25X1  
25X1  
25X1

40. [ ] SS-11 launch site L6 has remained cratered since a controlled explosion destroyed the silo headworks [ ] no activity had been seen at the site since the explosion. 25X1  
25X1

41. [ ] There has been no change at launch site V2, which was destroyed by an SS-17 launch-related explosion [ ] the netting was still covering the cratered silo area and nearby debris. No change has occurred on the corner of the site support building since it was removed in mid-May 1979. 25X1  
25X1

42. [ ] During this period, no launches occurred from Space Launch Site G1 A/B, and no launch vehicle activity was observed that would indicate an impending ASAT launch at the site. The movement and observation of GSE at the two launch pads, including missile rail transporters, a possible missile load simulator, and a van-bodied checkout trailer, is considered standard operational site activity and not an indicator for an impending launch. 25X1

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43. [ ] In the site support area of Space Launch Site G1 A/B, a probable SL-11 launch vehicle storage building and a railspur turning-Y were under construction. The six-bay, rail-served storage building was in the midstage of construction and was about 86 meters long by 37 meters wide. It could house as many as six launch vehicles. The railspur turning-Y is between the launch pads and the payload assembly and checkout building. 25X1
44. [ ] A probable missile unloading operation had occurred at SS-9 launch site K2 on 4 October. An SS-9 silo loader and two canvas-covered first- and second-stage transporters were departing the site, indicating that the silo had probably been unloaded. However, other possibilities could be a missile exchange or training activity. Vehicle activity at the launch site was observed [ ] 25X1  
[ ] 25X1
45. [ ] A possible overburden test on the silo door at SS-18 launch site R13 occurred during late October. [ ] material (dirt, sand, or gravel) about one to two meters deep was observed mostly on the silo door pocket around the perimeter at the closed silo door. Some of the material had spilled onto the silo apron. Three small van trailers were on the silo apron. [ ] 25X1  
[ ] the same trailers were on the apron, the silo door was open, and no material was observed. 25X1  
[ ] the material appeared to be flattened out and some had spilled onto the silo door. [ ] 25X1  
[ ] the possible test had occurred, as the silo door was then open. Most of the material was still on the silo door pocket and silo apron. Some of the material could have fallen into the silo, which may or may not have been loaded with a canister containing a missile. It is possible that a device to catch debris was also being tested. When the site was last observed [ ] no changes had occurred. 25X1
46. [ ] During this reporting period, a correlation was made between seven of the nine known ICBM launches from Tyuratam and their specific launchers. A lack of postlaunch coverage precludes a correlation of the last two launches during this period. Table 1 summarizes the launch activity. 25X1

## Plesetsk

47. [ ] Strategic missile activity observed during the reporting period at the Plesetsk MSTC included the identification of a second possible silo sleeve at launch site 28 and continuing refurbishment/modification at launch site 11. 25X1
48. [ ] New activity at weapons-related support facilities included the sighting of two unidentified railcars or objects on railcars in the SS-16 area of the Missile Handling Facility and the observation of two type IIIH silo doors and two type IIIH silo door pockets at the silo materials receiving area in the SS-13 area of the Missile Handling Facility. 25X1
49. [ ] Construction at launch site 28 was continuing at a moderate pace. [ ] 25X1  
possible construction material had been offloaded on the southeast apron. A vertical, canvas-covered cylinder, [ ] was on the southeast apron south of the 25X1  
previously reported [ ] cylinder (possible silo sleeve). The diameter of the [ ] 25X1  
[ ] cylinder suggests that it might also be a silo sleeve. A possible lowboy trailer and prime mover were in front of the vertical cylinder. A truck and a mobile crane were also on the apron. 25X1  
[ ] 25X1
51. [ ] the two aforementioned cylinders, last seen on [ ] 25X1  
[ ] were no longer present. The two cylinders were either emplaced in the silo shaft or had been removed from the site. A circular, peak-roofed environmental cover had been placed over the southeast silo. Planking, which covered the northwest silo, was being removed. 25X1
52. [ ] Construction was continuing on the site security building. Security fencing for site 28 has not been completed. 25X1
53. [ ] Conversion/modification has not resumed at launch sites 14 and 22. The house trailers were still at the entrance to launch site 22. Launch site 14 [ ] 25X1  
and launch site 22 [ ] 25X1
54. [ ] At launch site 20 the three house trailers remained outside the site entrance. Launch site 20 [ ] 25X1  
[ ] 25X1
55. [ ] At launch site 11, activity occurred mainly at the south silo of this dual-silo R&D site. The silo door was seen open [ ] 25X1  
a mobile crane and a small vehicle were on the south silo apron. [ ] the boom of the mobile crane was over the silo aperture. The mobile crane remained at the south silo apron for the remainder of the reporting period. Trucks were seen on the northern silo apron throughout the reporting period. 25X1

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Table 1. Tyuratam ICBM Launch Activity

				25X1
Vehicle Type*	Launch Date*	Launch Site	Observations	
SS-17 (Mod-1 Variant)	14 Sep 79	V7	[ ] a new LAD was observed in the usual onsite impact zone	25X1
SS-17 (Mod-1 Variant)	15 Nov 79	V7	[ ] a new LAD was observed in the usual onsite impact zone	25X1
SS-18 (Mod-4)	17 Oct 79	R8	[ ] a propellant operation was underway; 2 MSPTs and 2 trucks were positioned at the closed silo, & 4 MSPTs were leaving the site	25X1
			[ ] 2 trucks & 4 trailers were parked around the open silo; a new LAD was observed in the usual onsite impact zone	25X1
SS-18 (Mod-4)	20 Oct 79	R4	[ ] a propellant operation was underway; 2 MSPTs & 6 trucks were positioned at the closed silo	25X1
			On 22, no activity was observed at the open silo; a new LAD was observed in the usual onsite impact zone	
SS-18 (Mod-4)	23 Nov 79	R9	[ ] the silo apron was darkened; a new LAD was observed in the usual onsite impact zone	25X1
SS-18 (Mod-4)	27 Nov 79	**	***	-
SS-18 (Mod-4)	29 Nov 79	**	***	-
SS-19 (Mod-1 Variant)	12 Sep 79	S5	[ ] a canvas covered SS-19 lower canister section was near the open silo	25X1
			[ ] the silo apron was darkened around the open silo	25X1
			[ ] a silo loader was parked on the apron turnaround	25X1
SS-19 (Mod-1 Variant)	14 Nov 79	S9N	[ ] a propellant operation was underway; 2 MSTPs & 5 trucks were positioned at the open silo; 1 MSPTs & 2 trucks were parked on the access road	25X1
			[ ] the silo apron was darkened around the open silo	25X1
			[ ] v, a spent SS-19 lower canister section on a silo loader was aligned with a missile transporter on the silo apron	25X1
				25X1

\*\*A lack of posttest coverage of Launch Group R prevents an identification of the site(s) from which the 27 and 29 Nov SS-18 (Mod-4) launches originated.

\*\*\*A likely site for one of the launches is R4. At R4 on 17 Nov, a propellant operation was underway; 4 MSPTs and 5 trucks were positioned at the closed silo.

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56. [ ] in the SS-16 receiving and checkout area of the Missile Handling Facility, the previously reported possible rail dolly was still in front of the four-bay, missile-hold building. The dolly remained in the same location [ ] two unidentified special-purpose railcars or objects on railcars were observed on the rail spurs in front of the four-bay, missile-hold building. 25X1
57. [ ] in the SS-13 receiving and checkout area, a lowboy trailer and a prime mover carrying a canvas-covered vertical cylinder [ ] were observed in front of the four-bay, missile-hold building. [ ] when the facility was next imaged, the canvas-covered cylinder was no longer present. The prime mover and the lowboy trailer remained [ ] Possibly the same vertical cylinder was observed at launch site 28 [ ] 25X1  
25X1  
25X1
58. [ ] Construction was continuing on the new silo materials receiving area in the SS-13 receiving and checkout area. [ ] two type IIH silo doors and two type IIH silo door pockets were observed under the gantry in the silo materials receiving area. The silo doors appeared to have a slightly modified top plate with a hexagonal protrusion. The IIH components may be for launch site 28, where two silos have been under construction, or the components may be for launch site 14 or launch site 22, where former type IIH silos are undergoing conversion/modification. These IIH components were present [ ] when the facility was last imaged. 25X1

25X1

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25X1

**Top Secret RUFF****ICBM DEVELOPMENT, PRODUCTION, AND TESTING****Votkinsk**

64. [ ] Construction has continued at the Votkinsk Final Assembly and Checkout Facility. A rail-served assembly building was externally complete in the newest area of the facility. It is expected that a new solid-propellant ICBM will be assembled in this area. 25X1

**Leningrad**

65. [ ] cylindrical object had been partially erected over the IIIIE silo test position at Leningrad Silo Components R&D Facility [ ]. The cylinder was still present when the facility was last imaged. [ ] 25X1  
25X1  
25X1

**DEFENSIVE MISSILE ACTIVITY****Sary-Shagan Missile Test Center****Launch Complex B**

66. [ ] During this reporting period, Complex B was observed 24 times [ ] 25X1  
[ ] 25X1  
GALOSH (ABM-1B) launch positions C1 and C3 were observed with new launchers assembled [ ] 25X1  
[ ] respectively. The launcher at C2 had been dismantled [ ] and the new 25X1  
launcher had been assembled [ ] No changes/modifications of the new launchers have been 25X1  
identifiable.

67. [ ] No significant activity was observed at silos C4 or C5. In the missile assembly and checkout area, four pyramid-shaped flame splitters have been observed [ ] 25X1  
25X1

**Launch Complex D**

68. [ ] Launch Complex D was observed four times [ ] 25X1  
[ ] At Complex D, the sliding shelter on the B-1 building, the probable laser facility, was closed each time it was imaged. Throughout this reporting period, the inflatable cover over the radome at the EGG HEAD radar remained deflated, showing the longitudinal ribbing on the radome. On the coverages which included the American-deck water coolers, no vapors were observed. 25X1

**Launch Complex F**

69. [ ] Launch Complex F was observed 30 times [ ] 25X1  
[ ] At silo 3B, refurbishment 25X1  
activity continued. At silo 4E, the split doors had been removed from their door rails [ ] 25X1  
and had been reinstalled [ ] 25X1  
70. [ ] At aboveground launch position 3A, a support vehicle was observed perpendicular to the launch tube/canister on imagery [ ] the launch tube/canister was in the 25X1  
vertical position, and a probable SH-08 missile was protruding from it. [ ] the launch 25X1  
tube/canister was in the horizontal position, and the missile was no longer present. No indications of a launch were observed.

71. [ ] During this reporting period a probable new launch position was identified. The position has been designated launch position 3D and resembles launch position 3A. The position consisted of a flame bucket and a foundation for the possible emplacement of a second launch tube/-canister. 25X1

**Operations Support Base**

72. [ ] The Operations Support Base was observed seven times [ ] 25X1  
[ ] 25X1  
[ ] From ten to 12 GALOSH canisters were observed at the servicing apron in the Explosives and Solid Propellant Handling Facility. 25X1

**R&D Radar Facilities 1, 2, and 3**

[ ] 25X1



**Top Secret RUFF**

74. [ ] At R&D Radar Facility 1, construction on the new radar building was externally complete; however, the large crane remained in front of the radar. A circular concrete pad with a probable calibration tower had been constructed at the end of the cable conduit which had previously been under construction in front of the radar. The conduit was earth covered during the reporting period. An unidentified structure, possibly for calibration, was under construction 820 meters in front of the radar building. 25X1

75. [ ] There were no apparent changes to R&D Radar Facilities 2 and 3 during this reporting period. 25X1

**R&D Complex**

76. [ ] The R&D complex was observed 11 times [ ] The coelostat beam director at Facility A was covered by the [ ] dome throughout the reporting period. 25X1  
The dome has not been observed in the lower window [ ] The use of the cooling ponds appeared to have ceased with the coming of winter. Construction of the north building continued. 25X1

77. [ ] Preliminary preparations for explosives testing were observed at Facility B during the reporting period, but no actual tests were observed after the series, reported in the previous SAL Summary report, which appeared to have been concluded in August 1979. 25X1

25X1

**Moscow ABM Facilities**

80. [ ] Dismantlement/modification, consisting of the removal of the vertical pillars and baseplates of the GALOSH launchers, was observed at each of the four ABM launch complexes during the reporting period (see the following table). At each of the four complexes, all eight launchers along the outer row (launch positions 2 and 3) were dismantled. Launch complexes E24, E31, and E33 were last observed [ ] On that date, all eight launchers along the inner row (launch positions 1 and 4) were occupied by GALOSH ABM canisters. Launch Complex E05 was last observed [ ] 25X1  
[ ] six of the eight launchers along the inner row were occupied by GALOSH ABM canisters at that time. 25X1

Launch Complex	Date Observed	Launchers Observed	GALOSH Canisters Engaged	Launchers Dismantled
E05	5 Sep	16	7	3
	15 Oct	16	6	8
E24	18 Sep	16	7	6
	13 Oct	16	8	8
E31	21 Sep	16	7	8
	12 Oct	16	8	8
E33	13 Oct	16	8	8
	2 Sep	11	4	6
	12 Oct	16	8	8
	13 Oct	16	8	8

81. [ ] The Borovsk ABM Support Facility was observed three times [ ] 25X1  
Forty-two GALOSH ABM canisters were observed [ ] and 43 GALOSH ABM canisters were observed [ ] Construction was continuing on the clerestory building and on the large building foundation inside the east entrance to the facility. 25X1

82. [ ] The CAT HOUSE battle management radar facility was observed [ ] 25X1  
[ ] No apparent change was observed at this facility. 25X1

**Top Secret**

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25X1

**Top Secret RUFF****Deployed ABM-Related Radars**

83. [ ] The Pechora Phased-Array Radar Facility was observed [ ]	25X1
[ ] Construction was continuing around the radar buildings, and large quantities of construction supplies were in the open storage yards. In the housing and administration area, construction of support buildings was continuing.	25X1
84. [ ] The Lyaki Phased-Array Radar Facility [ ]	25X1
[ ] Construction of this facility was continuing.	25X1
85. [ ] The Sary-Shagan Probable Phased-Array Radar North [ ]	25X1
[ ] Construction of this facility was continuing.	25X1
86. [ ] The Sary-Shagan HEN HOUSE Facility [ ]	25X1
New panels were being installed on the right antenna building of dual HEN HOUSE Radar C.	
87. [ ] The Mishelevka HEN HOUSE Radar Facility [ ]	25X1
[ ] The Sevastopol HEN HOUSE Radar Facility [ ]	25X1
[ ] No significant changes were observed at either of these HEN HOUSE radar facilities or at the Ust Kamchatsk ABM Radar Facility during this reporting period.	25X1

**SECTION 2**

**Submarine-Launched Ballistic  
Missiles  
(1 September — 30 November 1979)**

Top Secret RUFF

## SUBMARINE-LAUNCHED BALLISTIC MISSILES

## Submarine Production

## Delta-Series SSBN Construction

88. [ ] Usable satellite imagery of the Severodvinsk complex was obtained on 19 occasions during this reporting period. 25X1
89. [ ] A D-III SSBN (probably unit 9) was at the fitting-out quay for additional post-sea-trials maintenance and adjustments [ ] this submarine had departed the Severodvinsk complex, probably enroute to its North Fleet operating base. 25X1  
25X1
90. [ ] An additional D-III SSBN (probably unit 10) was at the fitting-out quay between [ ] except for a brief absence [ ] this submarine also departed the Severodvinsk complex, probably enroute to its North Fleet operating base. 25X1  
25X1
91. [ ] flotation device supports were positioned along launch rail C in preparation for the rollout and launch of a submarine. [ ] 12 flotation device supports had been positioned along each side of the rails and spanned a distance [ ] 25X1  
25X1  
25X1
92. [ ] It cannot yet be determined if additional flotation device supports will be positioned along the rail, or if the arrangement of the supports is for a submarine other than a D-III SSBN. 25X1
93. [ ] A high count of at least four submarine pressure hull sections was observed in the staging area behind construction hall 1 during this reporting period [ ] a pressure hull section with an outside [ ] was on the rail spur extending into fabrication building 1. This hull section is smaller than any known SSBN-program hull section and may be intended for the SSGN believed to be under construction in construction hall 1. [ ] an unidentified pressure hull section [ ] with a dome-shaped end cap was under staging shed A. [ ] an additional pressure hull section [ ] but without the end cap was observed under staging shed B. The submarine construction program for which these two hull sections are intended is unknown. 25X1  
25X1  
25X1  
25X1  
25X1
94. [ ] No indications of Delta-series SSBN construction were observed at Komsomolsk Shipyard Amur 199 during this reporting period. 25X1

## New-Series SSBN Construction

95. [ ] Evidence supporting the construction of a new-series SSBN in construction hall 3 at Severodvinsk continued to be seen during this period. The hull section and two covers seen on the staging platforms behind construction hall 3 during the previous reporting period remained in the same approximate positions throughout this reporting period. [ ] the transverser carriage was aligned with the northernmost loading rail into construction hall 3, and the doors into the hall were open; however, no hull sections were observed. [ ] a possible one-hole, internal missile-bay deck plate, similar to the plate seen in October 1977, was observed in the staging area adjacent to fabrication building 1. Detailed mensuration of an outer hull plate on a railcar adjacent to the winch house [ ] indicates that this plate is larger than the plates previously observed on D-series SSBNs and is probably intended for the large, new-class SSBN under construction in construction hall 3. The plate had a chord [ ] Assuming that this plate is a quarter section of the outer hull, the projected beam of the submarine would be [ ] 25X1  
25X1  
25X1  
25X1  
25X1  
25X1  
25X1

## Severodvinsk Construction Activity

96. [ ] Construction continued throughout this reporting period on the launch dock support ledges in front of construction hall 3, on the structures, outside the basin walls, which are aligned with the support ledges, and on the two pillar-supported platforms outside the launch basin [ ] a probable load-bearing stress test was being conducted on the northernmost set of launch rails in front of construction hall 3. Two flotation devices were placed on the rails in a manner similar to the weighted test conducted on the transverser carriage behind construction hall 3 in October 1978. 25X1  
25X1
97. [ ] Construction continued on the new quays, the cranes, the flat-roofed structure over the staging platforms at Shipyard 402, and the new repair hall/open repairways at Shipyard Yagry Island. 25X1

## SSBN Dismantlements

98. [ ] Y-class SSBNs. The two dismantled Y-class submarines remained at the main quay, Shipyard Yagry Island, with water being pumped from their hulls throughout this reporting period. 25X1
99. [ ] at least the upper portion of the number-one starboard missile tube had been removed from the Y-I SSBN that had been placed on the south ledge of the ship-lifting basin [ ] at least the upper portions of three additional tubes had been removed, [ ] a possible missile tube was on the quay adjacent to the bow of the submarine. Dismantlement has continued, with nine tubes remaining to be removed [ ] 25X1  
25X1  
25X1  
25X1

## Top Secret RUFF

100. [ ] Dismantlement of the Y-I SSBN at Petrovka Naval Base and Shipyard was completed during this reporting period. 25X1

101. [ ] the Y-I SSBN was moved from the ship-lifting basin shelf to the open repairway adjacent to the covered repair hall. Four missile tubes (port and starboard numbers one and eight) had been removed. No significant change in the status of the submarine was observed [ ] 25X1  
[ ] when the submarine had been cut into three sections, separating the missile bay section from the bow and stern sections. [ ] the missile bay section of the submarine was moved to one of the 25X1  
old open repairways, and the bow and stern sections of the submarine were butted up against one another. By [ ] 25X1  
[ ] the remaining missile tubes and part of the pressure hull had been removed from the missile bay section. 25X1

102. [ ] H-class SSNs. Little change was observed in the status of the H-class SSN at Pala Guba, from which three tubes were removed during January 1978. A floating crane was alongside for most of the reporting period. The submarine had been moved into the open ARD(D) [ ] but had been removed [ ] 25X1  
[ ] and had departed the base [ ] 25X1

## SSBN Overhauls

103. [ ] D-class SSBNs. Minor maintenance continued on the D-I SSBN at Severodvinsk Shipyard 402 through [ ] the submarine had departed the Severodvinsk complex. Overhaul of the D-I SSBN at Shipyard Yagry Island continued throughout this reporting period. [ ] the subma- 25X1  
rine was in the center of the ship-lifting basin. Transfer dollies arranged on the north ledge of the basin [ ] 25X1  
[ ] indicate that the submarine will be placed inside the south bay of repair hall 2, which was vacated when the modified E-II-class submarine was launched [ ] 25X1

104. [ ] A D-I SSBN had arrived at Pala Guba [ ] for probable overhaul/refueling. 25X1

105. [ ] Y-class SSBNs. Four Y-I SSBNs were in various stages of overhaul and refueling at Shipyard Yagry Island during this reporting period. Two Y-I SSBNs remained inside the repair halls, and the Y-I SSBN that had been undergoing overhaul since May 1978 was removed from the north bay of repair hall 1 [ ] 25X1  
[ ] Except for a brief period at the calibration facility at Shipyard 402 [ ] this 25X1  
submarine has been undergoing postoverhaul fitting-out at the west quay since [ ] The Y-I SSBN that 25X1  
was removed from the south bay of repair hall 1 [ ] was probably the same 25X1  
submarine that was returned to the repair hall during this reporting period. This submarine continued to undergo postoverhaul fitting-out and maintenance at Shipyard Yagry Island and the Nuclear Submarine Special Support Facility [ ] this submarine had been placed on the north ledge of the 25X1  
ship-lifting basin, [ ] it had been placed in the north bay of repair hall 1. The 25X1  
reason for the submarine's return to the repair hall and the expected duration of the return are unknown; however, outer hull cuts in the vicinity of the reactor compartments indicate that corrective reactor work is probably required. [ ] a Vala AOS liquid radiological waste carrier and a rectangular support 25X1  
barge were alongside the submarine, and connecting lines were attached to the reactor area.

106. [ ] Overhaul of the Y-I SSBN that arrived at Severodvinsk Nuclear Submarine Special Support Facility [ ] continued throughout this reporting period. It had been expected that this submarine would be placed in the north bay of repair hall 1 at Shipyard Yagry Island; however, its overhaul schedule will now be delayed by the return of the previously overhauled unit to the repair hall. 25X1  
25X1

107. [ ] One of the four Y-I SSBNs in various stages of overhaul and refueling at Petrovka remained inside the repair hall. Postoverhaul fitting-out continued on two Y-I SSBNs. One of these submarines was moved to the Nuclear Submarine Special Support Facility and remained there throughout the reporting period. The second submarine remained at the main quay. No significant external activity was observed on either unit. The fourth unit remained at the slanted pier with reactor access sheds over the reactor areas. Transfer dollies, which were being positioned on the ship-lifting basin shelf [ ] will probably be used to move this submarine into the repair hall. 25X1

108. [ ] One Y-class SSBN completed overhaul/refueling at Pala Guba, and an additional one had arrived [ ] for probable overhaul/refueling. 25X1  
25X1

109. [ ] H-class SSBN. The H-II class SSBN that had been at the probable nuclear support facility at Rosta since March 1978 was still present in early September when seen on the only imagery of the installation obtained during this reporting period. 25X1  
-

## Tunneling

110. [ ] Activity was observed during this reporting period around the cofferdammed tunnel entrance in Pavlovskogo Bay. [ ] water inside the cofferdam was being emptied into the bay, and bulldozers were backfilling inside the cofferdam. This activity may indicate that the land mass between the tunnel entrance and the cofferdam may soon be breached. 25X1  
25X1

111. [ ] The only activity observed at the Sayda Guba tunnel was the covering of the entrance with canvas, probably for environmental protection. A support building was completed adjacent to the entrance of the tunnel at Pala Guba. Little progress was observed on the tunnel at Guba Litsa. The tunnels at Ara Guba were not imaged during the reporting period. 25X1

**Top Secret RUFF****SLBM Test Centers****Nenoksa Naval Missile Test Center**

112. [ ] **Launch Facility B.** No change or activity has been observed at the facility. [ ] 25X1  
[ ] 25X1
113. [ ] **Launch Facility D.** Probable missile-related test activity [ ] 25X1  
[ ] railcar was immediately north of the erector/loader mechanism. One of 25X1  
the three sections of the cover over the erector/loader had been removed and placed nearby, presumably to  
facilitate loading operations. A rectangular structure was over the launch tube area, and several other objects,  
possibly component crates or canisters, were also near the launch tube. This was the first observation of test-  
related activity since the erector/loader was observed in a raised position [ ] 25X1  
[ ] 25X1
114. [ ] Other significant activity included installation of the third (and final) section of the cover over 25X1  
the erecting mechanism. (This is the same section which had been removed prior [ ] 25X1  
The cover  
will not only provide environmental protection but will effectively screen from overhead view any activity in the  
covered area.
115. [ ] the solid fence or wall which forms the inner security perimeter had been 25X1  
rebuilt and relocated. There are also two outer wire fences to provide additional security.

**Balaklava Missile Test Center**

116. [ ] Balaklava Submarine Base and Ship Repair Yard—that part of the Test Center directly 25X1  
connected with SLBM and cruise missile popup testing—[ ] 25X1  
[ ] The most significant development was the removal of the missile tubes and door 25X1  
assemblies from the SLBM popup barge (platform 8) [ ] 25X1  
These were partially  
canvas covered and were still present on the dock near the popup barge [ ] 25X1  
[ ] The Golf V SSB, probably used as a popup test platform, [ ] 25X1  
[ ] presumably engaged in test operations. During this same period one of the SLBM transporters had 25X1  
been moved from its usual parking place at Balaklava Test Center to a position near the missile checkout  
building, along with two mobile cranes. Three telemetry vans were also in the missile handling area on 3  
September. The vans were returned to instrumentation site 1 [ ] 25X1  
This activity and the presence of  
a probable missile railcar at the submarine base [ ] 25X1  
were further indications of missile-related  
programs probably involving SLBM popup testing.

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**Top Secret**

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25X1

**Cruise Missiles**  
**(1 September — 30 November 1979)**

SECTION 3

Top Secret RUFF

## CRUISE MISSILE DEVELOPMENT

## Production

117. [ ] Construction is continuing at the Ivankovskiy Guided Missile Plant, where a probable new strategic ALCM is under development. [ ] an air intake tower in a midstage of construction on the roof of the propulsion test building. Construction of an air intake completes the evidence that the engine test cell in the building is being modified. Construction continued during this period on the possible laboratory/test building at the plant. 25X1  
25X1

## Testing

118. [ ] The new cruise missile at Launch Facility A of Nenoksa Naval Missile Test Center is still undergoing tests. [ ] a loading tray was seen mounted in the tube of launcher A-1. When the launcher [ ] the loading tray had been removed, and a collateral source\* indicated that a missile was fired from Nenoksa later that day. This has provided the most definitive connection to date between launch positions A-1/A-2 and the new cruise missile program. 25X1  
25X1  
25X1

119. [ ] A second loading tray, somewhat similar to the first, was seen at Launch Facility A in early October. While the first loading tray has been associated with launchers A-1 and A-2, the second loading tray appears to be associated with the large building-like structure north of these launchers. This structure has been designated as probable launch position A-5. Probable launch position A-5 has the same dimensions as half of a weapons position on the new probable command and control ship designated 189A. This ship has been undergoing fitting-out at Leningrad Shipyard Baltic Ordzhonikid 189. A loading tray, which is similar in size and appearance to the loading tray associated with probable launch position A-5, has been seen on the quay adjacent to the 189A. 25X1

120. [ ] Activity associated with the cruise missile program has continued at Balaklava MTC. On 7 September the cruise missile popup barge was moved from its usual position along the quay to another point farther down. [ ] a new 10-meter crate, which has been associated with the cruise missile popup barge, was seen in the missile storage area. This was the first 10-meter crate to have been brought to the storage area since the number of crates declined from three to one from May to June. Also, some type of construction work has apparently begun in the storage area. 25X1  
25X1

## Other Missile Activity

121. [ ] Construction has continued at Feodosiya Naval Missile Support Facility throughout the reporting period. 25X1

122. [ ] Leningrad Weapons Test Facility 3 was not imaged during the reporting period. 25X1

[ ] NE-03 Cruise Missile Launched from Nenoksa [ ] 25X1  
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25X1



**Long-Range Aviation**  
**(1 September — 30 November 1979)**

**SECTION 4**

Top Secret RUFF

## LONG-RANGE AVIATION

123. [ ] This portion of the report summarizes SAL-related Soviet air activity observed [ ] 25X1  
 [ ] Included is a brief description of the unusual BACK- 25X1  
 FIRE, BEAR, and BISON aircraft activity, as well as tables showing the location and count of these aircraft on  
 the dates imaged. All SAL-associated Soviet LRA and SNA bases; aircraft production facilities; Akhtubinsk  
 Flight Test Center; the Novosibirsk Scientific Institute of Aviation (SIBNIA); and six of the nine Soviet Arctic  
 staging bases capable of supporting BACKFIRE were imaged during this reporting period. [ ] 25X1  
 [ ] 25X1

## BACKFIRE Aircraft Activity

124. [ ] a fifth modified BACKFIRE B was observed at Kazan Airframe 25X1  
 Plant Gorbunov 22. This modified BACKFIRE B was unpainted and was probably newly produced. Seven  
 modified BACKFIRE B have been produced, one of which burned at Ramenskoye in May 1978. As of the most  
 recent coverage, five are at Kazan Airframe Plant Gorbunov 22, and one is at Ramenskoye Flight Test Center.

125. [ ] No significant changes in BACKFIRE count were noted at either Akhtubinsk or Ramenskoye 25X1  
 Flight Test Centers.

126. [ ] The count of BACKFIRE B at Poltava Airfield, an LRA-associated base, has stabilized at 20. 25X1  
 An ASM exercise was in progress at Poltava [ ] Three BACKFIRE B were observed 25X1  
 (one on the dispersal taxiway) with one AS-4 missile mounted under the port wing. Another AS-4 was seen on a  
 dolly behind the port wing of a BACKFIRE B in a revetment. The previously reported probable maintenance/-  
 support building under construction in the dispersal area was in the advanced stages of construction. The  
 interior floor area of this building has been hard surfaced, and concrete blocks were being laid in the area  
 linking the building to the dispersal taxiway.

127. [ ] At Soltsey Airfield, an LRA-associated installation, the BACKFIRE B count has stabilized at 25X1  
 19. During the last reporting period, the highest number of BACKFIRE B seen there was 18. An environmental  
 maintenance shelter has been constructed in the maintenance area at this base [ ] 25X1

[ ] This shelter is large enough to permit only the nose section of the BACKFIRE to be 25X1  
 placed inside the shelter for maintenance. Possible dismantling of the CLEAT D (bort number 76476) based at  
 Soltsey [ ] when both outer wing panels had been removed. [ ] 25X1  
 [ ] the wing panels were still on the ground where they had been placed after removal. 25X1

128. [ ] Twelve BACKFIRE B were observed at Belaya Airfield, an LRA-associated installation, 25X1  
 [ ] only nine BACKFIRE B were seen there. The count of 25X1  
 BACKFIRE B stabilized at ten during November. Construction continued on three revetted hardstands. When  
 these are completed, there will be 20 revetted hardstands in the BACKFIRE dispersal area.

129. [ ] A new high count of 32 BACKFIRE B was observed at Bykhov Airfield, an SNA-associated 25X1  
 base, [ ] The previous high count of 29 was seen here in August and 25X1  
 [ ] Construction continued on the hardstands in the BACKFIRE dispersal area. 25X1  
 There were 20 double (three in advanced stages of construction) and seven single BACKFIRE revetted hard-  
 stands in the dispersal area.

130. [ ] Eighteen BACKFIRE B were seen at Oktyabryskoye Airfield, an SNA-associated base, during 25X1  
 August [ ] and through the end of this period, the BACK- 25X1  
 FIRE B count stabilized at 17.

131. [ ] The count of BACKFIRE remained at five BACKFIRE A and two BACKFIRE B at 25X1  
 Ryazan/Dyagilevo Airfield, the LRA training base, during this reporting period. At the naval training base at  
 Nikolayev Kulbakino Airfield, four BACKFIRE B were observed [ ] During October and 25X1  
 November, the BACKFIRE B count had stabilized at three.

132. [ ] Three BACKFIRE B were seen at Dolon Airfield, an LRA BEAR base, [ ] 25X1  
 [ ] This was the only sighting during this reporting period of BACKFIRE at an installation not usually 25X1  
 associated with BACKFIRE.

133. [ ] Construction and modification was continuing on the six parking hardstands at Ostrov- 25X1  
 Gorokhovka Airfield, an SNA-associated installation in the Baltic Sea Fleet Air Force. These hardstands are  
 being configured in a manner similar to the BACKFIRE parking hardstands seen at Bykhov Airfield, also an  
 SNA-associated installation in the Baltic Sea Fleet Air Force area.

134. [ ] There were no changes in the status of the static display BACKFIRE A at Irkutsk Airfield 25X1  
 Southeast. Moscow/Monino Airfield was not imaged during this reporting period.

135. [ ] BACKFIRE were not observed at any of the Arctic staging bases—Anadyr/Ugolnyye Kopi 25X1  
 Airfield, Koshka-Yavr Airfield, Markovo Airfield, Olenegorsk Airfield, Ostrov Greem-Bell Airfield, Tiksi West  
 Airfield, Umbozero Airfield South, Vorkuta Airfield East, or Yakutsk/Magan Airfield.

25X1

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25X1

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**BEAR Aircraft Activity**

136. [ ] of Uzin/Chepelevka Airfield, an LRA-associated BEAR base, revealed that runway and taxiway repairs had progressed sufficiently to allow the field to become operational, and that the BEAR A and BEAR B/C regiments had returned. The BEAR A regiment had deployed to Nezhin Airfield and the BEAR B/C regiment had deployed to Mozdok Airfield during these repairs. 25X1

137. [ ] A major ASM exercise was observed at Mozdok Airfield, an LRA-associated BEAR base, on [ ] Nine BEAR B and three BEAR C were seen with centerline-mounted AS-3 (KAN-GAROO) missiles, and one additional AS-3 was being serviced in the BEAR dispersal area. Fifteen AS-3 and one AS-3 fuselage were seen in the ASM Support Facility. 25X1  
25X1

138. [ ] Parking hardstands are being constructed for the BEAR and BISON at Dolon Airfield, an LRA-associated base. Nineteen BEAR parking hardstands and three BISON parking hardstands had been completed [ ]. The BEAR A and BEAR B/C regiments were observed at usual strength during this reporting period. 25X1  
25X1

139. [ ] revealed that runway repairs had been completed and that the BEAR D and BEAR F regiments had returned to Kipelovo Airfield, an SNA-associated base, after they had deployed to Olenegorsk Airfield during these repairs. 25X1

140. [ ] The BEAR D/F regiment at Khorol Airfield East and the BEAR F unit at Alekseyevka Airfield, both SNA-associated bases, were observed at usual strength during this period. 25X1

141. [ ] There was no change in the status of the static display BEAR at Irkutsk Airfield Southeast. Moscow/Monino Airfield and Voroshilovgrad Airfield Southeast were not imaged during this reporting period. 25X1

**BISON Aircraft Activity**

142. [ ] No further evidence of BISON disassembly was observed during this reporting period. Portions of the disassembled BISON A and components of the disassembled BISON B at Ukraina Airfield were still discernible on the hardstand in the northwestern part of the airfield. The previously reported disassembled BISON B at SIBNIA has not been seen [ ] when it was reported as having been taken inside a test building. 25X1  
25X1

143. [ ] The BISON regiments at Engels and Ukraina Airfields were observed at usual strengths during this reporting period. 25X1

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25X1

INSTALLATION/FACILITY	DATE			COVERAGE		BACKFIRE			BEAR						BISON				REMARKS		
	DAY	MONTH	YEAR	COMPLETE	PARTIAL	A	B	UNDETERMINED	A	B	C	D	E	F	UNDETERMINED	A	B W/O PROBE	B W/ PROBE		C	UNDETERMINED
Akhtubinsk Flight Test Center				X		2															
				X		7**				2				1							
				X		1															
				X		6				2				1							Area airfield only
						4				2				1							
				X		5				2				1							Area airfield only
				X		5				2				1							Area airfield only
				X		7**				2				1							
				X		7**				2				1							
				X		2															Main airfield only
				X		7**				2				1							
				X		6				2				1							
				X		6				2				1							
				X		6				1				1							
				X		6				1				1							
				X		6				1				1							
				X		4				2				1							Area airfield only
				X		5				2				1							
				X		4				2				1							Area airfield only

\*Imagery not received in time for previous reporting period.

\*\*High count

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\*Imagery not received in time for previous reporting period.

\*\*High count

25X1



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INSTALLATION/FACILITY	DATE			COVERAGE		BACKFIRE			BEAR						BISON				REMARKS		
	DAY	MONTH	YEAR	COMPLETE	PARTIAL	A	B	UNDETERMINED	A	B	C	D	E	F	UNDETERMINED	A	B W/O PROBE	B W/ PROBE		C	UNDETERMINED
Belaya Airfield				X		10															
				X		2															Heavy clouds
				X		12															
				X		9															2 of the 9 BACKFIRE were on the runway taxiway
				X		8															
				X		2															50% of BACKFIRE dispersal area was not imaged
				X		9															
				X		9															
				X		9															
				X		10															
				X		9															
				X		0															Heavy clouds; BACKFIRE area cloud covered
				X		9															
				X		7															
				X		9															
				X		9															
				X		9															2 KITCHEN ASM in BACKFIRE area
				X		5															Clear, complete coverage
				X		11															
				X		10															
				X		10															

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**Top Secret RUFF**

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25X1

INSTALLATION/FACILITY	DATE		COVERAGE	BACKFIRE		BEAR						BISON				REMARKS					
	DAY	MONTH	YEAR	COMPLETE	PARTIAL	A	B	UNDETERMINED	A	B	C	D	E	F	UNDETERMINED		A	B W/O PROBE	B W/ PROBE	C	UNDETERMINED
Oktyabryskoye Airfield		X				17															
			X			18															
			X			17															
		X				18															
		X				18															
		X				13															
		X				18															
		X				17															
			X			7															Scattered clouds
			X			10															Heavy clouds
			X			16															
		X				17															
			X			16															
		X				17															
		X				17															
		X				17															
		X				17															
		X				17															
		X				17															
		X				17															
*Imagery not received in time for previous period.																					

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25X1



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INSTALLATION/FACILITY	DATE		COVERAGE		BACKFIRE			BEAR							BISON				REMARKS		
	DAY	MONTH	YEAR	COMPLETE	PARTIAL	A	B	UNDETERMINED	A	B	C	D	E	F	UNDETERMINED	A	B W/O PROBE	B W/ PROBE		C	UNDETERMINED
Dolon Airfield	X														40					38	
		X					16	15	7			2			21						Scattered clouds
	X						16					1	prob	B/C		2	prob				
	X						16	14	7			1			37		2				
	X								3						A/B/C		2				
	X						16	14	7			1					2				
	X						16				4	prob			18		2				
	X						16				4		1		A/B/C		2				
	X					3	16			4		1	prob		18		2				Only time BACKFIRE aircraft were seen at this airfield during this reporting period
		X					16			1	prob		1	prob		A/B/C		2			
		X					16			1	prob		1	prob		7 B/C					Heavy clouds
		X					16	13	7			1									Scattered clouds
	X						16								21						
	X														38						
	X														A/B/C						
	X						17	15	3			1									
	X						16			2		1			18						
	X						17	13	6			1			A/B/C						
	X						17			6		1			14						
	X						17			6		1			B/C						
	X						17	9	4	1	prob		1								
	X						17								20						
	X						17								B/C						
X						11	13	5													
	X													11						Heavy clouds	
X														A/B/C							
														A/B/C							

\*Imagery not received in time for pervious reporting period.

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INSTALLATION/FACILITY

Alekseyevka Airfield

DATE			COVERAGE		BACKFIRE			BEAR						BISON				REMARKS			
DAY	MONTH	YEAR	COMPLETE	PARTIAL	A	B	UNDETERMINED	A	B	C	D	E	F	UNDETERMINED	A	B	W/O PROBE		B W/ PROBE	C	UNDETERMINED
			X										13								
				X									7								Heavy clouds
			X										12								
				X									12								Scattered clouds
			X										8								
			X										12								
			X										12								
				X									12								Partial coverage
			X										12								
			X										12								
			X										12								
			X										11								
			X										12								
				X									12								Partial coverage
				X									12								Partial coverage
			X										12								
			X										12								
				X									12								Partial coverage
			X										12								
				X									12								
			X										12								
				X									12								
			X										12								

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**INSTALLATION/FACILITY**[illegible]

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INSTALLATION/FACILITY	DATE			COVERAGE		BACKFIRE			BEAR						BISON				REMARKS		
	DAY	MONTH	YEAR	COMPLETE	PARTIAL	A	B	UNDETERMINED	A	B	C	D	E	F	UNDETERMINED	A	B W/O PROBE	B W/ PROBE		C	UNDETERMINED
Ukraina Airfield				X												7	8	16	3		
				X												4	7	17	4	1	
				X												5	7	17	4		
				X												5	7	17	4		
				X												5	7	17	4		
					X											1	5	10		6 B 7 undetermined	
					X											2	6	8	3	8 B 2 undetermined	
				X												4	1	7	3	15	
					X											1	6	10		1 4 undetermined	
				X												5	3	16	3	3 B 1 undetermined	
				X				8								5	7	17	3		
					X															13 B 20 undetermined	
					X											7	2	11	4		
				X												6	10	17	2		
				X												7	8	16	4		
				X												8	7	15	3		
				X												4	9	17	3		
				X												5	1	11	3	16	
				X												7	7	18	4		
				X												7	7	17	2	3	
				X												7	7	18	4		
*Imagery not received in time for previous reporting period.																					

25X1

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\*Imagery not received  
in time for previous  
reporting period.

INSTALLATION/FACILITY	DATE			COVERAGE		BACKFIRE		BEAR						BISON				REMARKS				
	DAY	MONTH	YEAR	COMPLETE	PARTIAL	A	B	UNDETERMINED	A	B	C	D	E	F	UNDETERMINED	A	B		W/O PROBE	B W/ PROBE	C	UNDETERMINED
Ukraine Airfield				X												5 2 prob	7	18	4			
				X												4 1 prob	7	9	4	6 B 5 undetermined		
				X												5 2 prob	7	18	4			
				X												7	6	19	4			
				X												4		12	3	10 B 9 undetermined		
				X												5	1	13	3	14 3 B		
				X												4		8	2	19 undetermined		
				X																31		
				X												6	6	1 prob	4			
				X												4	7 2 prob	11	4	8		
				X												6	1	16	3	10 6		
				X												3 1 prob	2	1 prob	3	12 B 7 undetermined		
				X												5	3	13	2	3 B 9 undetermined		
				X												2		6	3	4 B 12 undetermined		
				X												7	7	18	3			
				X							2 C 1 prob					5		12	3	3 B 12 undetermined		

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